

WHAT IS CLAIMED IS:

1. A piezoelectric detector, comprising:
a piezoelectric transducer;
an amplifier circuit electrically connected to the piezoelectric transducer; and
a resistor in electrical series between the piezoelectric transducer and the amplifier circuit to limit transient-induced current flows through the circuit.
2. The detector of Claim 1, wherein the resistor has a resistance that is less than an amplifier impedance of the amplifier circuit.
3. The detector of Claim 1, wherein the resistor has a resistance that is less than at least one of: a feedback resistance, and a load resistance, of the amplifier circuit.
4. The detector of Claim 1, wherein the piezoelectric detector operates in a voltage output mode, and the amplifier circuit includes a FET, the resistor being disposed in series between the piezoelectric transducer and the FET.
5. The detector of Claim 1, wherein the piezoelectric detector operates in a voltage output mode, and the amplifier circuit includes an operational amplifier, the resistor being disposed in series between the piezoelectric transducer and the operational amplifier.
6. The detector of Claim 5, wherein the resistor is in series between the piezoelectric transducer and a non-inverting input of the operational amplifier.

7. The detector of Claim 1, wherein the piezoelectric detector operates in a current output mode, and the amplifier circuit includes an operational amplifier, the resistor being disposed in series between the piezoelectric transducer and the operational amplifier.

8. The detector of Claim 7, wherein the resistor is in series between the piezoelectric transducer and an inverting input of the operational amplifier.

9. The detector of Claim 1, wherein the detector is implemented in an infrared motion sensor.

10. In a detector circuit including a piezoelectric transducer and a monitoring circuit, at least one resistor in series between the piezoelectric transducer and the monitoring circuit, the resistor having a resistance established to cause negligible error in a measurement signal output by the monitoring circuit at least during non-stress events but limiting current flow during transient stress events.

11. The circuit of Claim 10, wherein the resistor has a resistance that is less than an amplifier impedance of the monitoring circuit.

12. The circuit of Claim 10, wherein the resistor has a resistance that is less than at least one of: a feedback resistance, and a load resistance, of the monitoring circuit.

13. The circuit of Claim 10, wherein the piezoelectric detector operates in a voltage output mode, and the monitoring circuit includes a FET, the resistor being disposed in series between the piezoelectric transducer and the FET.

14. The circuit of Claim 10, wherein the piezoelectric detector operates in a voltage output mode, and the monitoring circuit includes an operational amplifier, the resistor being disposed in series between the piezoelectric transducer and the operational amplifier.

15. The circuit of Claim 14, wherein the resistor is in series between the piezoelectric transducer and a non-inverting input of the operational amplifier.

16. The circuit of Claim 10, wherein the piezoelectric detector operates in a current output mode, and the monitoring circuit includes an operational amplifier, the resistor being disposed in series between the piezoelectric transducer and the operational amplifier.

17. The circuit of Claim 16, wherein the resistor is in series between the piezoelectric transducer and an inverting input of the operational amplifier.

18. The circuit of Claim 10, wherein the circuit is implemented in an infrared motion sensor.

19. A circuit, comprising:

at least one piezoelectric transducer;

at least one amplifier circuit receiving, along an electrical path, a signal from the transducer and processing the signal to produce an output; and

at least one resistor in the electrical path, the circuit being configured such that the signal from the transducer must pass through the resistor prior to being received by the amplifier circuit.

20. The circuit of Claim 19, wherein the resistor has a resistance that is less than an amplifier impedance of the amplifier circuit.

21. The circuit of Claim 19, wherein the resistor has a resistance that is less than at least one of: a feedback resistance, and a load resistance, of the amplifier circuit.

22. The circuit of Claim 19, wherein the piezoelectric detector operates in a voltage output mode, and the amplifier circuit includes a FET, the resistor being disposed in series between the piezoelectric transducer and the FET.

23. The circuit of Claim 19, wherein the piezoelectric detector operates in a voltage output mode, and the amplifier circuit includes an operational amplifier, the resistor being disposed in series between the piezoelectric transducer and the operational amplifier.

24. The circuit of Claim 23, wherein the resistor is in series between the piezoelectric transducer and a non-inverting input of the operational amplifier.

25. The circuit of Claim 19, wherein the piezoelectric detector operates in a current output mode, and the amplifier circuit includes an operational amplifier, the resistor being disposed in series between the piezoelectric transducer and the operational amplifier.

26. The circuit of Claim 25, wherein the resistor is in series between the piezoelectric transducer and an inverting input of the operational amplifier.

27. The circuit of Claim 19, wherein the circuit is implemented in an infrared motion sensor.